OFFICE OF HEALTH PROGRAMS
OPERATING PLAN

FISCAL YEARS 2002-2003

ENVIRONMENT, SAFETY AND HEALTH
U.S. DEPARTMENT OF ENERGY
GERMANTOWN, MARYLAND

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INTRODUCTION

MISSION

Promote the health of Department of Energy workers and communities.

OPERATING PRINCIPLES

Plan

- Plan strategically
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- Promote competition
- Conduct peer review

Perform

- Facilitate and support work
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- Leverage assets

Evaluate

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- Measure productivity
- Conduct peer review
- Acknowledge success

Improve

- Benchmark similar work
- Encourage innovation
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- Promote competition

ORGANIZATION

The Office of Health Programs (OHP) is staffed with approximately 30 employees, each with special skills and competencies that enable OHP to carry out day-to-day business. The classic multi-tiered hierarchy found in many large, long-established organizations, such as the Government, has been cast

aside for a more streamlined and efficient model used by corporate business. This change has significantly strengthened OHP's strategic capabilities, improved communications, enhanced competitiveness, and increased responsiveness and focus.

The line organization within OHP consists of the Deputy Assistant Secretary, the Chief Operating Officer, and the staff. Staff-level personnel consist of program managers and subject matter experts. Because of the highly technical and scientific nature of OHP work, the line organization is augmented with a special advisory expert, the Chief Science Officer. Major roles and responsibilities for these jobs are as follows:

The *Deputy Assistant Secretary* serves as OHP's advocate; promulgates office-wide policy and direction; and provides resources and infrastructure.

The *Chief Operating Officer* implements policies and direction; and directs daily business, staffing, and budget.

The *Chief Science Officer* serves as principle scientific advisor to the Deputy Assistant Secretary; develops and proposes policy and direction; and ensures a cohesive, coordinated, and prioritized health studies program.

Program Managers communicate guidance and direction to contractors and grantees; provide work objectives and verify they are properly reflected in program-management plans and statements of work; develop and use performance measures; ensure that contracted-for work stays within budget; and initiate program improvements to ensure efficient and cost-effective implementation.

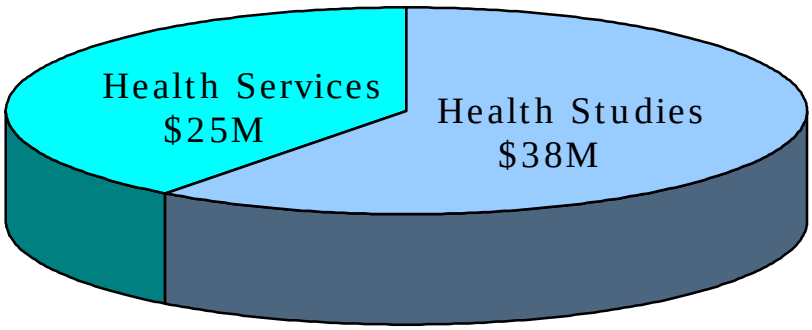
Subject Matter Experts provide authoritative program-related expert advice and counsel; identify and recommend program improvements; identify and promote new or key research/technology for OHP use; act as technical liaison with Government and industry; and, where applicable, produce analytical material for peer-reviewed publication based on OHP-related work.

PORTFOLIO

OHP is responsible for managing a program of research and public health activities designed to promote the health and safety of Department of Energy (DOE) workers and communities surrounding Department sites. The OHP portfolio is divided into two programs, *health studies* and *health services*. The work that we do and the techniques that we support are rooted in a basic public health disciplines such as epidemiology, occupational and

environmental health, health physics, and industrial hygiene. The projected budget for fiscal year (FY) 2002 is approximately $63 million. As shown in Figure 1, 60 percent of the OHP budget supports the health studies program with the remaining 40 percent of the budget supporting OHP programs for health services.

OHP Budget Distribution by Program – FY 2002



HEALTH STUDIES

The Health Studies Program provides information on the long-term health effects of ionizing radiation or chemical exposures to workers or community members. The primary focus of these studies is the men and women who worked at DOE facilities. Studies of DOE workers began in the 1960's due to concerns about radiation exposure, and have continued uninterrupted to this day. OHP provides funding to the National Institute for Occupational Safety and Health (NIOSH) to support epidemiologic studies of workers. In addition, the office supports the U.S. Transuranium and Uranium Registries (USTUR), a major resource for understanding the health effects of plutonium. To supplement the information we obtain from studies of DOE workers, OHP also supports epidemiologic research on the health effects of radiation exposure among workers in the Russian nuclear weapons complex and workers who were involved in the cleanup of the Chernobyl nuclear reactor. Studies of workers who received high doses provide the data that help scientists understand dose response relationships and radiation health effects.

A second aim of the OHP health studies program is to determine the health impact of DOE operations on residents living near DOE facilities. These studies focus on environmental exposures (through contact with contaminated soil, water, and air) as a result of off-site contamination. These studies are

conducted by Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health (NCEH) and by the Agency for Toxic Substances and Disease Registry (ATSDR). OHP supplements domestic community studies with research among communities living near the Russian nuclear complex at MAYAK and in the regions around Chernobyl. Additionally, the office supports studies of the Japanese survivors of the atomic bomb blasts at Hiroshima and Nagasaki. OHP anticipates that this information contributes to the knowledge of the broad spectrum of radiation dose and associated health effects.

OHP maintains a public use database called the Comprehensive Epidemiologic Data Resource (CEDR) that holds information from DOE-sponsored research. Data from many of our domestic health studies programs described in this operating plan are made available through CEDR.

PUBLIC HEALTH ACTIVITIES WITH HHS

Through a Memorandum of Understanding (MOU) with the Department of Health and Human Services (HHS), DOE funds a program of independent research and public health activities. The aim of the program is to improve our understanding of the consequences of exposures to ionizing radiation and other hazardous materials used in DOE operations on workers and communities.

Three agencies within HHS conduct these public health activities under the MOU: 1) the National Institute for Occupational Safety and Health (NIOSH); 2) the National Center for Environmental Health (NCEH); and 3) the Agency for Toxic Substances and Disease Registry (ATSDR). NIOSH conducts epidemiologic studies of workers at DOE sites; NCEH conducts community-based historical dose reconstruction projects and community epidemiologic studies; and ATSDR conducts studies of communities located near DOE Superfund sites to determine if current contaminants in the environment can result in adverse human health effects.

ACCOMPLISHMENTS**:**

- Published the "Health Agenda for Public Health Activities at U.S. DOE Sites for FY 2001-2006."
- Developed a communication plan to improve coordination among HHS agencies.
- Activities below completed by NIOSH:
  - Portsmouth and Pantex cohort mortality studies;
  - Heat Stress and Performance in Carpenters at DOE sites;
  - Prevention of Stress and Health Consequences of Downsizing and Reorganization;
  - Cancer Incidence/Mortality Study of Rocky Flats Plant;

    - Chronic Beryllium Disease Among Beryllium-Exposed Workers;
    - Beryllium Disease Natural History and Exposure Response;
    - Lung Fibrosis in Plutonium Workers; and
    - Paper on the "Significance of Radiation Exposure from Work-related Chest X-rays for Epidemiologic Studies of Radiation Workers."
- Activities below completed by NCEH:
    - Additional progress on the Los Alamos National Laboratory (LANL) document retrieval project;
    - Final Fernald Health Effects Subcommittee meeting;
    - Evaluation of the effectiveness of the health effects subcommittees;
    - Assessment of releases of contaminants from Savannah River Site (SRS) for the dose reconstruction;
    - Report on prioritization of radionuclides released from Idaho National Engineering and Environmental Laboratory (INEEL);
    - Hanford individual dose assessment; and
    - Draft report on "Methods for Estimating Radiation Doses from Short-lived Radionuclides and Particles at Hanford."
- Activities below completed by ATSDR:
    - Initiation of the Oak Ridge Health Effects Subcommittee;
    - Public health assessments for Paducah, Middlesex, and Fernald;
    - Health consultations for Cerro Grande Fire, LANL, and Organically Bound Tritium at SRS and Lawrence Livermore National Laboratory (LLNL); and
    - Renewal of cooperative agreements with nine Native American Tribes.

GOALS**:**

- Continue collaboration between DOE and HHS agencies in setting long-term planning.
- Implement the 2001 Access Handbook to improve the conduct of studies and public health activities.
- Publish health bulletins on the Portsmouth and Pantex studies.
- Conduct quarterly meetings with HHS agencies.
- Continue the SRS and LANL dose reconstruction projects. (NCEH)
- Complete mortality studies of the Rocky Flats Plant, INEEL, Portsmouth Naval Shipyard, DOE Chemical Lab Workers, and Ionizing Radiation and Mortality Among Hanford Workers, as well as case-control studies on Leukemia, K-25 Multiple Myeloma, Lung Cancer, and an International Collaborative Study of Nuclear Industry Workers. (NIOSH)
- Complete Public Health Assessments at Brookhaven, INEEL, Laboratory for Energy-Related Research, and LLNL. (ATSDR)

- Initiate public health assessments at Oak Ridge, LANL, and continue environmental education to communities, tribes, and health care providers. (ATSDR)

Program Manager: Marsha A. Lawn

JAPAN PROGRAM: RADIATION EFFECTS RESEARCH FOUNDATION

DOE is committed to the support of the atomic bomb survivor studies at the Radiation Effects Research Foundation (RERF) in Hiroshima and Nagasaki, Japan, as long as valuable health effects information is to be gained by further followup of the survivors. The main RERF study that is used for determining risk of mortality, cancer, and other diseases is the Life Span Study. Through a co-funding agreement with the Japanese Government, DOE is supporting the completion of the Life Span Study and any ancillary studies, which would strengthen the relationships between radiation dose and incidence of cancer. For example, this would include studies of molecular markers in specimens from the atomic bomb survivors, and physical and biological dosimetry studies needed to determine individual radiation doses.

The Atomic Bomb Casualty Commission (ABCC), funded by the U.S. Atomic Energy Commission, initiated studies on the effects of radiation exposure in survivors of the atomic bombings in Hiroshima and Nagasaki in 1947. In 1975, RERF was established under Japanese law as full successor to the ABCC and was designated to continue the research. The Act of Endowment states that the objective of the RERF is "to conduct research and studies, for peaceful purposes, on medical effects of radiation on man and on diseases which may be affected by radiation, with a view to contributing to the maintenance of the health and welfare of atomic bomb survivors and to the enhancement of the health of all mankind." Annual funding for the RERF is provided by the Japanese Ministry of Health, Labor and Welfare (MHLW) and DOE. Through a cooperative agreement, the Board on Radiation Effects Research of the National Academy of Sciences (NAS) supports RERF activities.

The RERF research program focuses on epidemiologic studies of mortality and cancer incidence in the Life Span Study cohort and the in-utero cohort, as well as genetic and mechanistic studies. Other clinical studies (Adult Health Studies) and followup studies on the children of the survivors (F_1 studies) are financially supported by MHLW, since they are regarded as relief measures for the A-bomb survivors.

The results of RERF research are the primary basis for radiation protection standards throughout the world. The radiation risk estimates rely on a dosimetry system developed in 1986 (DS86). Emphasis during 2002 will be on

completion of the reassessment of DS-86 by a Joint U.S.-Japanese Working Group on the Reassessment of A-bomb Dosimetry and subsequent publication and application of the new dosimetry system.

ACCOMPLISHMENTS:

- Major papers on radiation health effects published by RERF scientists. There have been an increasing number of reports by non-RERF scientists who have used RERF data to develop alternate models for cancer risk assessments. The NAS has published the report: Status of the Dosimetry for the RERF (DS86).
- Collaborated with MHLW on a number of issues related to the funding and management of the RERF, including the nomination of the first American as RERF Chairman.
- Developed a plan, together with the DOE Office of Science, the NAS, and the MHLW, on the completion of needed atomic bomb dosimetry studies, including timeline, research tasks, and funding responsibilities.
- Conducted special session at Health Physics Society meeting and promoted other activities to communicate with the scientific/technical community plans and progress in the area of A-bomb dosimetry reassessment.
- Four meetings of the U.S. Working Group on the Reassessment of A-Bomb Dosimetry were held. These included meetings with their Japanese counterparts to discuss technical issues.

GOALS:

- Together with MHLW, fund and facilitate the U.S. and Japanese Working Groups' efforts on dosimetry reassessment, including a report on the new dosimetry system.
- Focus the cooperative agreement between the NAS and DOE on staffing plan for scientific personnel based on the needs of the RERF departments. Promote new initiatives for increasing the number of American and international scientists at RERF.

Program Manager: Joseph F. Weiss

RUSSIAN HEALTH EFFECTS STUDIES

U.S./Russian cooperation was initiated in 1994 to study and determine, to the extent possible, the risks associated with working at or living near Russian nuclear sites. The cooperation is carried out under the "Agreement between the Government of the Russian Federation and the Government of the United States of America on Cooperation in Research on Radiation Effects to the Purpose of Minimizing the Consequences of Radioactive Contamination on Health and the Environment." The work is conducted under the management of the Joint Coordinating Committee for Radiation Effects Research (JCCRER),

of which DOE is the lead U.S. agency and the Ministry of Emergencies is the lead Russian agency. Under the JCCRER agreement, U.S. and Russian scientists have established close and long-term cooperation, are studying the health-impacts of exposures of Russian nuclear workers and members of the communities around Russian nuclear sites, and are addressing the issues of emergency response to nuclear incidents. Presently, DOE supports two radiation dose reconstruction studies, two epidemiologic studies, three tissue studies, a tissue repository, data preservation and integration activities, and other public health activities such as education and outreach to the public and to other scientists in Russia and worldwide. All activities are currently conducted at MAYAK and in communities surrounding MAYAK and along the Techa River in the South Urals.

The workers at Russia's MAYAK Production Association, the first nuclear weapons facility in Russia, were exposed to chronic radiation doses 100-1,000 fold higher than U.S. workers. By contrast, U.S. nuclear worker exposures average less than 0.1 rem, making it very difficult to detect health effects. Studying the Russian nuclear workers and community members helps us better determine the risks associated with nuclear industry work and helps validate the protection standards in use in the United States and world-wide. This DOE-supported health studies collaboration with Russia has already found significant associations between internal plutonium deposition exposures and increased risk of lung, liver, and bone cancers. Results of these studies are being used by standard-setting organizations to evaluate modifications to exposure standards.

ACCOMPLISHMENTS:

- Initiated 5-year planning.
- Explored options for enlarging program in Russia.
- Reinvented Scientific Review Group (SRG) and facilitated joint collaborations beginning between the DOE and Russian SRG.
- Bolstered public involvement in Russia.
- Augmented focus on and involvement with students working on the JCCRER projects.
- Reinvented major worker dosimetry project.
- Initiated two new projects - database integration and biomarkers of radiation exposure.
- Added blood component to tissue repository collection.
- Completed microfilming project at the Urals Research Center for Radiation Medicine.
- Facilitated publication of special journal issue in Russian on MAYAK and Techa River research activities.
- Renewed and began fortifying relationship with European Commission Directorate XII.
- Established scientific poster presence - virtual and real.

- Established searchable bibliography on JCCRER web page, of publications related to MAYAK and Techa River populations research.

GOALS:

- Continue current projects as appropriate.
- Participate in and/or organize international meeting on radiation health effects and outline 20-year strategy on study of radiation health effects.
- Continue 5-year planning effort with Russian colleagues.
- Initiate and fund next long-term phase of worker dosimetry project.
- Formalize European Commission-DOE-Russian relationship.
- Continue strategic discussions/thinking about an International Center for Radiation Studies in South Urals.
- Solicit new U.S. JCCRER members and funding.

Program Manager: Claudia L. Beach

CHERNOBYL HEALTH EFFECTS STUDIES

The explosion at the Chernobyl Nuclear Power Plant in northern Ukraine is considered to be the worst nuclear accident in that 50 tons of radioactive dust were dispersed over 140,000 square miles of Belarus, Ukraine, and Russia, and 4.9 million people were estimated to have been exposed to radiation. In addition to the general population, 600,000 to 800,000 Ukrainian clean-up workers, referred to as "liquidators," were exposed. These workers took part in abating the radioactive contamination at the site. Of these, 130,000 liquidators are in the Ukrainian State Chernobyl Registry.

Four international projects are underway: parallel studies of thyroid cancer in Belarussian and Ukrainian communities affected by the Chernobyl accident and studies of cataracts and leukemia in Ukrainian liquidators. DOE sponsors the cataract study; DOE and the National Cancer Institute co-sponsor the leukemia and thyroid studies.

Since 1987, researchers observed large increases in the incidence of childhood thyroid cancer in the populations of both Belarus and Ukraine among those exposed to higher levels of radioiodine. The thyroid cancers appear to be more prevalent in those aged 0-5 at the time of the accident and in areas determined to be more heavily contaminated with I^{131}. The purpose of these 30-year studies is to estimate the early and late structural and functional changes in the thyroid glands in 12,000 Belarussians and 12,000 Ukrainians who were less than 19 at the time of the Chernobyl accident. All study participants had their thyroid glands measured for radioactivity following the accident.

The purpose of the cataract study is to determine the incidence of radiation-induced cataract formation in 12,000 Ukrainian liquidators in the Ukrainian State Chernobyl Registry who served between April 26, 1986 and February 28, 1987. In addition, the study contains a nested case-control analysis of 1,000 cases and matching controls to assess the distribution of radiation-induced cataracts as a function of dose. This is the largest study of radiation-induced ocular cataracts ever conducted in a population with individual estimates of radiation exposure. The study is in its sixth and final year.

The purpose of the leukemia study is to examine the relationship between exposure to ionizing radiation and the incidence of leukemia, lymphoma, and related blood disorders. The Phase I pilot study began in 1996 and was completed in 2000. Because of insufficient statistical power to detect cases of lymphoma, it was decided to exclude lymphoma from Phase II and to focus on leukemia, multiple myeloma, and myelodysplasia. Phase II is a case-control study of approximately 100,000 liquidators in the Ukrainian State Chernobyl Registry who first worked in the 30 km Chernobyl exclusion zone between April 26, 1986 and December 31, 1991, and who were resident at the time of registration in Kiev or one of five Ukrainian Oblasts. Phase II began in FY 2001.

ACCOMPLISHMENTS:

- For the Belarus thyroid study, recruited and screened 11,834 subjects for the first time. Of these, 64 had a history of thyroid surgery prior to their initial screening examination, 49 had thyroid cancers, and 15 had benign thyroid neoplasms. Data entry for screened subjects is 89 percent completed. The second screening cycle began in April 2001.
- For the Ukraine thyroid study, recruited and screened 13,251 subjects for the first time. Of these, 7 had a history of thyroid surgery prior to their initial screening examination, 27 had thyroid cancers, and 9 had benign thyroid neoplasms. Data entry for screened subjects was completed. The second screening cycle began in March 2001.
- Mobile screening units to conduct exams outside of clinical screening centers were established. In Belarus, 50 percent were screened in Minsk, 10 percent in Gomel, and 36 percent by mobile screening units. In Ukraine, 75 percent were screened by mobile teams.
- For the cataract study, ensured each of the 12,000 subjects completed two eye examinations separated by a 2-year interval. Two exams are needed to determine cataract incidence. For the nested case-control study, identified 1,350 cases and an equal number of controls.
- For the leukemia study, abstracted 23,298 admissions for leukemia and ancillary diagnoses from hospital records in study Oblasts.

GOALS:

- For the thyroid studies, continue to follow the cohorts and conduct the second round of clinical exams to document the incidence of thyroid cancer and thyroid diseases and continue to refine the dose estimates to the thyroid glands.
- For the final year of the cataract study, determine beta dose to the lens and evaluate uncertainties associated with each subject's dose in official dose records; complete the first round of retrospective dosimetry for the cohort; complete the data entry of questionnaires from the cohort study and the nested case-control study; complete data analyses; and prepare a final report.
- For the second year of Phase II of the leukemia study, continue to assemble the cohort through the Ukrainian State Chernobyl Registry and continue to identify cases of leukemia, multiple myeloma, and myelodysplasia and form a leukemia registry from all available records in the study area.
- Validate the newly proposed method of analytical dose reconstruction, called RADRUE, which may be applied to refine dose estimates in both the cataract and leukemia studies.

Program Manager: Barrett N. Fountos

U.S. TRANSURANIUM AND URANIUM REGISTRIES

The U.S. Transuranium and Uranium Registries (USTUR) conduct a unique program of human tissue research. The Registries are a major component of DOE's long-standing programs to ensure that radiological protection standards and workplace control measures for occupational exposures to plutonium, uranium, and other long-lived radioactive materials are protective of worker health.

Based on voluntary enrollment of occupationally-exposed individuals, the USTUR are a valuable resource of data, radioanalytical capabilities, and research materials. The Registries include the operation of two catalogued repositories, the National Human Radiobiology Tissue Repository and the National Radiobiology Archive of tissues from animal studies, to ensure that donated tissues and histopathology slides are preserved and available for use by researchers. The Registries' analyses of the distribution of radioactive elements in tissues provides critical information about the quantity of radioactive material deposited in each body, the length of time that the material remained there, and the radiation doses received by organs and systems. These data are fundamental to our ability to verify and refine occupational radiation protection standards. For example, during the past 30 years, 370 USTUR cases have donated about 5,000 autopsy samples that were analyzed for isotopes of uranium, plutonium, thorium, and americium. Results from the

more than 15,000 radiochemical analyses formed the basis for many articles in peer-reviewed journals and for recommendations made by organizations such as the International Commission on Radiological Protection. With 40 registrants aged 80 or more years, many interesting cases should become available that will significantly contribute to our understanding of plutonium health effects.

ACCOMPLISHMENTS:

- Performed core operational tasks, including autopsy arrangements, sample preparations, review of USTUR Policies and Procedures Manual, support of USTUR web site (www.ustur.wsu.edu) in handling 400 queries per month, and communicating with the USTUR Scientific Advisory Committee, registrants, and the public.
- Operated the USTUR radiochemical laboratory on the Washington State University (WSU) Pullman campus, performed about 600 radiochemical analyses, entered results into USTUR database, and documented quality assurance and control procedures.
- Had ten papers published in, and six additional papers submitted to, peer-reviewed journals and published a USTUR annual report to summarize overall project progress.
- Completed collaborative research that established the comparability of measurements of plutonium in tissues of U.S. and Russian (MAYAK) workers.

GOALS:

- Perform core operational tasks and develop strategies for an increasing caseload because of the advanced age of many registrants and inquiries related to compensation legislation.
- Continue as a resource of information on internal dosimetry of radioactive metals by streamlining publication of analytical results, submitting five or more papers to scientific journals each year, and participating in pertinent conferences and workshops.
- Strengthen collaborative efforts with DOE sites and radiological standard setting organizations to evaluate biokinetic models by comparing USTUR radioanalytical results to measurements made at the registrants' workplace.
- Examine cases of simultaneous exposure to radioactive and other hazardous materials, such as plutonium and asbestos, and use archived tissues for molecular cytogenetics studies in the new pharmacogenomics laboratory at WSU.
- Perform the archival and collaborative services of the National Human Radiobiology Tissue Repository and the National Radiobiological Repository and facilitate access to these collections.

Program Manager: Barbara G. Brooks

COMPREHENSIVE EPIDEMIOLOGIC DATA RESOURCE

The Department has a strong commitment to greater openness in its operations and to the public's right to know about worker and community health risks. The Comprehensive Epidemiologic Data Resource (CEDR) project supports these goals by serving as the Department's public-use repository of data collected for DOE-sponsored epidemiologic, environmental, and related health studies.

De-identified study data are incorporated into CEDR as soon as studies are completed and researchers have provided files and documentation. Most of CEDR's large collection pertains to occupational epidemiologic studies conducted at many nuclear weapons plants, such as Hanford, Los Alamos, Oak Ridge, Rocky Flats, and Savannah River. They include data from cohort and case-control design studies, many of which have individual-level radiation exposure measurements. Additionally, CEDR presents data from studies of past releases from DOE sites that may have impacted the health of nearby populations, as well as data from classic studies of radiation health effects, such as those of the Japanese atomic bomb survivors and the radium dial painters. The sharing of these data, at no cost to the user, encourages independent scientific inquiry and diversity of analyses. More information or a CEDR catalog can be obtained online at http://cedr.lbl.gov.

ACCOMPLISHMENTS:

- Ensured CEDR's web presence, CEDRView, was online more than 98 percent of the time and responded to an average of 5,000 requests each month.
- Expanded and enhanced CEDR's holdings by incorporating additional data file sets and by implementing an application allowing CEDR users to visualize the concentrations of radioactive iodine released to the air from Hanford during 1945 – 1951.
- Implemented an online database of bibliographic materials from the Oak Ridge Dose Reconstruction project. Includes links to the scanned images of the documents in files (pdf) at the Office of Science and Technical Information (OSTI).
- Updated the CEDR brochure for meetings and outreach purposes.

GOALS:

- Continue CEDR's program of facilitating the public's access to data by providing online capabilities more than 98 percent of the time and responding to the hundreds of requests made of its web site each day.

- Incorporate submitted data files within 30 days and promptly announce their availability.
- Complete quality assurance procedures on all files of structured documentation.

Program Manager: Barbara G. Brooks

HEALTH SERVICES

The Health Services Program is composed of a variety of projects that can be broadly classified into three areas: 1) those that support the delivery of medical services; 2) medical surveillance of former workers and affected civilian populations; and 3) epidemiologic surveillance of current workers.

OHP is fostering a new initiative to create a strong alliance with site occupational medical directors across the DOE complex. By facilitating communication and interaction among the medical directors, OHP aspires to enhance worker health protection. This program will continue to nurture policies related to the delivery of clinical medical care to workers, fitness for duty requirements, and compliance with exposure monitoring programs. Related to the support of medical services is the Human Reliability Program for workers assigned to positions critical to national security, and the Contractor Employee Assistance Program for the treatment and support of workers experiencing personal problems. The office also funds the Radiation Emergency Assistance Center/Training Site (REAC/TS), which trains medical personnel to provide clinical care to casualties resulting from nuclear accidents.

OHP medical and epidemiologic surveillance activities are designed to identify patterns of illness and injury among persons exposed to radiation or other hazardous materials or adverse conditions. The primary emphasis of worker health surveillance is the identification of workers whose health may have been affected by their work at DOE facilities and the provision of timely health information to those workers. There are three programs that provide medical surveillance to former workers. The goal of the Former Workers Medical Surveillance Program is to identify workers at significant risk for occupational diseases and to provide them with medical screening that could lead to medical intervention. The Former Beryllium Worker Medical Surveillance Program is designed to assess the health of those workers who were exposed to beryllium. OHP is currently evaluating the organizational structure and function of these two programs to maximize services with increased efficiencies. The third program is a medical surveillance specific to former workers at Rocky Flats with measurable internal dispositions of at least 20 rem. OHP also funds a medical surveillance program for two international programs: the Marshall

Islands, as a result of nuclear testing in the 1950's, and for Palomares, Spain, as the result of an accidental non-nuclear detonation of two nuclear weapons.

OHP epidemiologists conduct surveillance programs focused on current workers, which provides an opportunity to apply intervention strategies that reduce disease. Ongoing analysis of health data from 70,000 current workers is used to identify trends in illness and injury and that information is provided to workers, management, and others. In addition, OHP is responsible for a registry of workers exposed to beryllium, which will assist DOE in understanding the effectiveness of efforts to reduce exposure to the metal and learn more about the disease.

FORMER WORKERS MEDICAL SURVEILLANCE

The Former Workers Medical Surveillance Program (FWP) supports the OHP mission and strategic response by evaluating the effect of DOE's past operations on the health of former workers. External teams of health experts are funded to independently evaluate DOE site hazards and exposures, and offer medical screening to former workers who may be at significant risk for occupational diseases. The teams collect and evaluate available site and worker health information, and generate new data and findings on the relationship of site-specific worker exposures to long-term health. Data from these projects will be summarized and made available in DOE's CEDR database for use by other researchers. Individual project final reports and a final FWP summary will be made available to DOE workers, communities, and other interested parties.

In 1996, DOE implemented the FWP in response to Public Law 102-484, Section 3162, that directed DOE to evaluate the long-term health conditions of former workers who may be at significant risk of occupational diseases due to their former employment at DOE sites. The FWP established three goals: 1) identify groups of workers at significant risk for occupational diseases; 2) notify members of these risk groups; and (3) offer medical screening that could lead to medical interventions to the at-risk workers. DOE used a competitive solicitation process to select site-specific projects that focus on groups of at-risk workers, such as production workers and construction workers. Twelve cooperative agreements were awarded to principal investigators that are affiliated with universities, schools of public health, and labor organizations. The projects were implemented in two phases. In phase I, a 1-year needs assessment was conducted. Based upon the results of the needs assessment, groups of at-risk workers and site-specific exposures of concern are identified. In Phase II, members of the at-risk groups are located, notified and offered medical screening examinations for adverse health outcomes related to occupational exposures (such as beryllium, asbestos, silica, welding fumes,

lead, cadmium, chromium, and solvents). These projects are evaluating former workers at the following sites: Hanford Site, Nevada Test Site, Rocky Flats Environmental Technology Site, Portsmouth Gaseous Diffusion Plant, Paducah Gaseous Diffusion Plant, Oak Ridge Reservation, SRS, INEEL, LANL, Alaska's Amchitka Island, and the Iowa Army Ammunition Plant.

ACCOMPLISHMENTS:

- Provided medical screening, health education, and assistance for needed follow-up to more than 6,000 former workers, bringing the total number of former worker participants to over 13,000.
- Continued the expansion of the PACE Gaseous Diffusion Plant project and increased medical screening capacity to a rate of 3,000 current and former workers per year. Implemented the Early Lung Cancer Detection Program using a state-of-the-art computerized tomography (CT) scanner.
- Provided support to the Office of Worker Advocacy and the Department of Labor for town meetings, Resource Center openings and other activities necessary for the implementation of the Employees Occupational Illness Compensation Program Act of 2000. With training from the Department of Labor, the FWP projects began assisting former workers to file worker compensation claims.
- Issued a Federal Register Notice soliciting applicants for a new project at the Pantex Plant in Amarillo, Texas. Completed the required formal merit review process and conducted negotiations for award of the new cooperative agreement.

GOALS:

- Develop a plan for a longer-term program to identify, notify, and medically screen former workers at high risk for occupational disease related to their work at sites across the DOE complex.
- Continue to identify, notify, and offer medical screening to former workers.
- Partner with other departmental elements and the Department of Labor to assist former workers with DOE-related occupational diseases to receive appropriate medical benefits.
- Develop and distribute summary information on FWP findings to DOE workers, communities, sites, and other interested parties.

Program Manager: Kathleen Taimi

MARSHALL ISLANDS MEDICAL SURVEILLANCE AND ENVIRONMENTAL MONITORING

The Marshall Islands Medical Surveillance and Environmental Monitoring Program is a response by DOE to the legacy of nuclear weapons testing in the Marshall Islands. As such, its purposes are to serve the personal medical

needs of Islanders most impacted by the testing; contribute to the Islanders well-being through science-based resettlement strategies; and to understand the extent of the long-term health consequences of exposure to ionizing radiation. The program is supported by Public Law 99-239 (Compact of Free Association Act of 1986), Public Law 99-205, and Public Law 95-134.

The program provides special medical care to Rongelap and Utrik people exposed to radiation from the 1954 U.S. thermonuclear "Bravo" test and environmental monitoring to characterize the radioactivity remaining at the four affected atolls of Bikini, Enewetak, Rongelap, and Utrik.

ACCOMPLISHMENTS:

- Contributed to the Republic of the Marshall Islands (RMI) medical infrastructure. Appointed a full-time chief of medical operations in Majuro.
- Reported that people living on the atolls in the footprint of fallout face no adverse health threats from tracer materials used in nuclear tests performed from 1946 through 1958.
- Reported that the surface doses for the service and village areas of Rongelap island are within the range of those acceptable to the RMI. This is critical information supporting resettlement.
- Completed a health physics building on Enewetak Island. The facility supports community and worker needs for whole body counting and plutonium urinalysis. The unit is operated by U.S. trained RMI technicians.
- Secured significant savings. Aging property in Honolulu, Hawaii, was transferred to the U.S. Air Force.

GOALS:

Special Medical Program: The U.S. House of Representatives recommends that the U.S. Government provide a single combined package of assistance to support the medical and public health infrastructure of the RMI. The following goals for the Special Medical Program are consistent with program recommendation and existing agreements.

- Begin the routine use of the electronic medical records system in coordination with the RMI medical and the 177 Health Care Programs.
- Implement formal metrics to measure the performance and quality of the special medical program.
- Partner with RMI, the U.S. Department of Interior, and the U.S. Public Health Service to develop an integrated strategy for delivery of health care.
- Contribute to the development of the health infrastructure for the RMI through strategic equipment purchases, sharing of facilities, and assignment of health staff.
- Conclude inter-agency planning for an integrated medical program.

Radiological Monitoring and Research: The U.S. House of Representatives indicates that radiological monitoring, dose assessment, and mitigation strategy research should conclude by 2006 when DOE will transition to a program of direct support to the RMI. The purpose is to build their capacity to make resettlement and land use decisions. The following goals are consistent with existing agreements and a transition to direct grants.

- Complete and sign an MOU with Utrik Atoll Government regarding environmental monitoring and technical assistance. The MOU will terminate on or before September 30, 2005.
- Issue final report on environmental characterization of Enewetak Atoll islands as specified in the MOU.
- Observe fertilizer campaign and conduct crop analysis on Rongelap Atoll within the scope of Phase 2 activities.
- Prepare a plan for an additional whole body counting (WBC) facility employing RMI technicians and technical support from DOE. Siting of the facility will be based on efficiency criteria.
- Install an additional WBC facility.
- Prepare a transition plan with RMI to begin direct (sole source) grants for purposes of environmental monitoring and radiological support.
- Conduct Runit Island 2005 environmental mission.
- Solicit sole-source grant application from RMI for purposes of environmental monitoring and radiological support. Conduct peer review and negotiate final conditions.
- Issue final report on the findings from the cesium-137 environmental studies.
- Issue final report on the Runit Island 2005 environmental mission.
- Award first grant to RMI for environmental monitoring purposes.

Program Manager: Gerald R. Petersen

FORMER BERYLLIUM WORKER MEDICAL SURVEILLANCE

This program is designed to assess the health impacts of DOE operations on employees exposed to airborne concentrations of beryllium. Beryllium compounds are now recognized as a serious occupational hazard, and the OHP is working to: 1) identify and offer medical screening to former employees thought to be at risk for chronic beryllium disease (CBD); 2) provide information learned from (1) above to occupational medical directors responsible for screening current workers at DOE sites, former workers, communities, and other interested parties; and 3) facilitate the initiation of an integrated interagency CBD research agenda leading to improved diagnosis, prognosis, and treatment of this disease. In these endeavors, OHP works closely with other departmental elements responsible for protection and control

measures for current workers, compensation for individuals who have developed CBD, and CBD research, as well as with other agencies conducting related activities.

The Former Beryllium Worker Medical Surveillance Program offers beryllium sensitivity screening to former employees (retired and separated) who are at risk for CBD due to their work at DOE. Pilot efforts were originally established in 1991 at the Rocky Flats Environmental Technology Site and the Oak Ridge Y-12 Plant. Together with the Former Workers Medical Surveillance program, this program currently offers screening to all former workers across the DOE complex thought to have been exposed to airborne concentrations of beryllium. The program is carried out under contract by the Oak Ridge Institute for Science and Education (ORISE), and information generated by the program is analyzed to determine the prevalence and distribution of CBD among former workers, generate hypotheses and stimulate research, and monitor changes and trends in disease prevalence.

ACCOMPLISHMENTS:

- Provided more than 5,000 former beryllium worker program participants with beryllium sensitivity screening, as well as support in screening of over 4,000 FWP participants, bringing the total number of individuals screened for Be sensitivity to over 25,000.
- Published a specification for the blood test for beryllium sensitivity for use in procurement by all departmental elements.
- Provided input to the development of a plan to counsel and assist employees in obtaining medical benefits.
- Initiated an effort, based on internal and external input, to develop a strategic vision and plan for future Be sensitivity screening and CBD research efforts.

GOALS:

- Continue the medical screening program for Be sensitivity and CBD among former beryllium exposed workers.
- Partner with other departmental elements and the Department of Labor to ensure workers with one or more positive blood test for beryllium sensitivity and those with CBD receive appropriate medical benefits.
- Facilitate research on diagnosis and prognosis of the disease.
- Institute a program to educate community physicians on CBD.

Program Manager: Elizabeth P. White

EPIDEMIOLOGIC SURVEILLANCE

DOE has legislative authority to monitor the impact of its operations on the health of its workforce. Epidemiologic surveillance monitors the health of current workers at participating DOE sites and evaluates and communicates the potential impact of DOE operations on current workers. Knowledge generated by this program provides a mechanism by which worker health concerns can be addressed in collaboration with the affected workers, occupational medicine, and site management. Epidemiologic surveillance supports the DOE's only multi-site health information database linked to current workers. The program leverages existing health and safety data sources to maximize the use of current data, while limiting the fiscal burden related to data collection.

Epidemiologic surveillance assesses the overall health of the *current* DOE workforce at 14 DOE sites and facilities. The goal is to identify groups of workers that may be at increased risk for occupation-related injury and illness. In response to indications of excess risk, program staff can assess the need for additional investigations. Surveillance is based on continuous collection, analysis, and interpretation of selected morbidity, demographic, and occupational exposure data. The program is a corporate resource providing our customers with timely health information. We also provide epidemiologic and public health expertise in the evaluation of worker health concerns. Reports summarizing the results of epidemiologic surveillance are published annually and are available online. Implementation of epidemiologic surveillance has advanced the automation of health data management systems at sites such as the INEEL, fostering the development of state-of-the-art medical information management.

ACCOMPLISHMENTS:

- Expanded number of participating sites to 14.
- Completed an independent assessment of the program to further align and integrate it with overall OHP goals.
- Expanded dissemination of health data to workers, citizens' groups, state government representatives, and other stakeholders through presentations and internet-based information.
- Presented results of Brookhaven National Laboratory Worker Cancer Assessment to workers and community representatives.
- Supported cancer assessment of LLNL workers and continued analytical support of ongoing Sandia National Laboratory worker health investigation.

GOALS:

- Work with site occupational medicine directors to develop a clinical data module for epidemiologic surveillance.
- Continue site recruitment.

- Improve communication with stakeholders through the development of more accessible, summarized information and wider dissemination of information.
- Develop at least one special focus report per year addressing a specific health and/or safety issue.
- Work with other OHP staff to develop policy addressing health and safety data collection and reporting.

Program Manager: Clifton H. Strader

ROCKY FLATS FORMER RADIATION WORKER MEDICAL SURVEILLANCE

The Rocky Flats Former Radiation Worker Medical Surveillance Program is one of three OHP activities that provide medical surveillance to former DOE workers. These programs fulfill the OHP mission to evaluate and communicate the impact of DOE operations, past and present, on its workers. This program helps comprise part of the OHP strategic response of making a substantive contribution toward understanding the health consequences of exposure to ionizing radiation on DOE workers.

This program provides medical examinations on a 3-year repeating cycle to former Rocky Flats workers with measurable internal deposition (due to wounds or inhalation), or a total effective dose equivalent (TEDE) of 20 rems or more. During the years of Rocky Flats Plant operations (1951-1989), several incidents (fires, explosions, etc.) resulted in external radiation exposures and/or internal depositions of plutonium, americium, and/or uranium in workers. This program began in 1980 as a Rocky Flats health surveillance program. In 1992, OHP began supporting it as a formal pilot program.

ACCOMPLISHMENTS**:**

- Reviewed site records for retiring Rocky Flats workers in order to determine eligibility for initial program participation.
- Provided dose assessments for newly recruited eligible former workers in order to determine eligibility for continued program participation.
- Conducted medical examinations of newly recruited eligible former workers and repeat (3-year) medical examinations of former workers.
- Published paper describing this program in *Health Physics* 80(6): 544-551; 2001.

GOALS:

- Conduct dose assessments and medical examinations of newly recruited former workers and repeat medical examinations of former workers.
- Prepare and submit for publication (as appropriate) reports that describe the dosage levels that have been recorded for these workers.

Program Manager: M. Janet Normandy

PALOMARES, SPAIN, MEDICAL SURVEILLANCE AND ENVIRONMENTAL MONITORING

The Palomares, Spain, Medical Surveillance and Environmental Monitoring Program supports the OHP mission to understanding the health consequences of exposures to ionizing radiation and the health impacts of DOE operations on communities. Medical surveillance improves the understanding of the health effects of nuclear weapons production, testing, and use, and environmental monitoring information can be used to expand the state of knowledge concerning plutonium pathways and adverse effects. This program produces information to fill a major gap in the world's knowledge of radiation effects, and will provide guidance for radiation protection and public health policies near former weapons production facilities.

On January 17, 1966, two U.S. Air Force planes collided during a mid-air refueling operation over the southeast coast of Spain. One of the planes carried four nuclear weapons that fell from the fuselage on impact. Although parachutes deployed for two of the weapons which were later recovered intact, the other two weapons exploded upon impact in the fields near the village when their parachutes failed to deploy. The resulting non-nuclear detonations resulted in the dispersal of plutonium and the contamination of 558 acres at Palomares, a hamlet of 1,500 residents. Within weeks of the accident, the U.S. Department of Defense remediated the site. Since that time, DOE has funded a portion of the cost of medical surveillance to the residents, the cost of environmental monitoring, and provided scientific and technical assistance.

In 1998, DOE and Centro de Investigaciones Energeticas Medioambientales y Tecnologicas (CIEMAT), DOE's Spanish counterpart, conducted a program review to help identify future research. As a of the program review, CIEMAT has begun to collect data needed for a quantitative health risk assessment. This includes refining the estimates of plutonium levels in soil, determining the amount of uranium in soil, and assessing the risk of inhalation of americium.

ACCOMPLISHMENTS:

- Continued activities related to personal radiological surveillance and environmental monitoring.

- Emphasized research on the migration and analysis of plutonium in soil samples from the area where residual contamination exists.
- Conducted medical examinations on 150 residents from Palomares and analyzed the amount of plutonium in urine collected over a 24-hour period; no significant findings related to radiation exposure were found.

GOALS:

- Perform clinical examinations and radio-bioassays of plutonium and americium collected from 24-hour urine samples of 150 residents from Palomares.
- Perform sampling, analysis, and measurements of plutonium and americium in air, soil, food crops, wild vegetation, milk, and other products.
- Perform a preliminary estimate of current annual doses to people living and working in Palomares as part of the quantitative health risk assessment.
- Perform separation and identification of plutonium hot particles in soils.

Program Manager: Barrett N. Fountos

RADIATION EMERGENCY ASSISTANCE CENTER/TRAINING SITE

The Radiation Emergency Assistance Center/Training Site (REAC/TS) program has been a significant part of DOE's radiation protection effort for over 30 years. This program provides state-of-the-art medical assistance, dosimetric assistance, and training efforts responsive to the Department's radiation accidents as its first priority; and, secondarily as a service on a worldwide basis. Personnel experienced in clinical radiation medicine are available on a 24-hour basis to evaluate patients directly or in consultation with their physicians, to provide clinical care management, and medical followup of survivors of serious radiation accidents. About 60 calls per year request this specialized assistance. REAC/TS personnel can treat workers or members of the public exposed to radiation or radioactive materials with appropriate conventional and developmental protocols. From REAC/TS research and registry of more than 400 past accident histories and pertinent clinical data from over 133,000 exposed individuals, it has been able to study the course of radiation induced pathology to suggest improvements for specialized treatment protocols. In this context, the group conducts maintains a selected inventory of chelating agents under Investigational New Drug Applications (INDA) as ameliorative options. Over 5,000 physicians, nurses, and emergency personnel have received REAC/TS training in the medical aspects of radiation accident preparedness and management. REAC/TS unique expertise in radiation medicine is sought frequently by program offices in DOE and in other Federal agencies.

ACCOMPLISHMENTS:

- Provided timely medical consultation and services to requests for assistance.
- Established and maintained a comprehensive radiation accident register.
- Enlisted and re-supplied co-investigators with fresh DTPA for the IND program.
- Provided DTPA treatments.

GOALS:

- Provide state-of-the-art expertise in radiation medicine.
- Continue to maintain and improve the REAC/TS radiation accident registries.
- Maintain DTPA (diethylenetriaminepentaacetic acid) INDs and increase DTPA inventories.
- Establish distribution of Prussian Blue to co-investigator physicians.
- Continue REAC/TS educational and instructional programs.
- Improve radiation treatment options through research and further clinical study.

Program Manager: Donald E. Lentzen

OCCUPATIONAL HEALTH

The Occupational Health Program is a recent initiative within the OHP. Our goal is to foster a strong alliance between OHP and site occupational medical directors (SOMDs) across the DOE complex and to facilitate communications and interactions among the medical directors, especially in relation to those activities that enhance worker health protection.

A *pro tem* Steering Committee of DOE Medical Directors has been organized from within the community of DOE contractor SOMDs. Based on their recommendation, the complex-wide body of DOE SOMDs will meet as a part of the Integrated Safety Management (ISM) Working Group-Occupational Safety and Health Subgroup of the Energy Facility Contractors Group (EFCOG).

This alliance will also be valuable as OHP develops policies and standards that facilitate the provision of high-quality occupational medical services and prevention-oriented, health surveillance programs at DOE sites, as well as worker fitness-for-duty examinations and human reliability programs.

GOALS:

- Provide a forum for discussion and collaboration between and among OHP and SOMDs.
- Determine the need for policies and rules related to the delivery of occupational medicine services to DOE site contractor employees.

- Provide guidance and support that will facilitate regulatory compliance.
- Encourage an environment that is conducive to the promotion and protection of worker health.

Program Manager: M. Janet Normandy

BERYLLIUM ASSOCIATED WORKER REGISTRY

The OHP supports efforts to establish and maintain a surveillance registry of current workers who are exposed to beryllium in their current job, or may have been exposed to beryllium in the past from work conducted at a DOE site. The goal of the registry is to determine the incidence and prevalence of beryllium sensitization and CBD. The data will be analyzed to better understand the cause and development of CBD and to identify those at risk. Another goal is to monitor and evaluate the effectiveness of DOE's Chronic Beryllium Disease Prevention Program.

The registry contains data on both DOE contractor and Federal workers. It consists of three data sets: 1) a roster of beryllium exposed workers; 2) medical screening results for beryllium exposure and medical diagnostic results used to diagnose CBD; and 3) work history, task, and exposure data. Policy, guidelines, and directives for the registry are determined at DOE Headquarters by OHP epidemiologists with input from industrial hygienists. The registry is maintained by ORISE in Oak Ridge, Tennessee.

ACCOMPLISHMENTS:
- Wrote Beryllium Registry Data Collection and Management Guidance Document.
- Facilitated review of guidance document by external groups.
- Rolled out guidance document at the site-wide Beryllium Working Group meeting at DOE Headquarters in March 2001.
- Software system, developed by ORISE, to house data submitted electronically from the DOE complex.
- Initiated four pilot programs at the Kansas City Plant, LANL, and at Y-12 in Oak Ridge.

GOALS:
- Phase in remaining DOE sites by January 7, 2002, deadline.
- Evaluate the use of alternative telecommunications to enhance assistance to DOE sites.
- Publish interim articles on the establishment of the registry.

- Populate the data system with data.
- Develop an analysis plan.
- Consider plans for current workers who transition to former worker status.

Program Manager: Bonnie S. Richter

CONTRACTOR EMPLOYEE ASSISTANCE

The DOE Contractor Employee Assistance Program (EAP) complements the DOE's medical and psychological evaluations and surveillance program by providing employees who are experiencing personal problems with an opportunity to receive appropriate treatment and support. Problems that adversely affect employee attendance, job performance, safety, and production are all related to the medical and behavioral elements of the worker surveillance program. EAP screening can allow diagnosis of a problem in early stages and, therefore, a more effective therapeutic intervention.

The goal of the EAP is to provide a conduit through which the individual can address and solve the issues confronted without fear of being penalized. This is done through consultation services, assessment, referral for treatment and/or rehabilitation, and education concerning substance abuse (i.e., illegal drug use, prescription drug abuse, alcohol abuse), or other medical-behavioral, mental, emotional, or personal problems of contractor employees and family members.

Most contractor EAPs are located within contractor occupational medical departments, some are located in human resource departments, and many have additional (off-site) EAPs.

The need to obtain and monitor the medical referrals to the EAP is critical to our understanding of this unique interaction and will allow us to better understand the unique role that medical programs provide in assessing a healthy workforce. OHP collaborates with the DOE Office of Contract and Resource Management to develop program requirements and standards for DOE Order 350.1, Chapter 9.

ACCOMPLISHMENTS:
- Updated the Directory of Employee Assistance Programs at DOE contractor sites and distributed to contractors.
- Initiated project for development of standards for DOE contractor EAPs.
- Established an EAP Steering Committee to develop draft standards.

GOALS:

- Complete the project on standards for the DOE contractor EAP.
- Initiate study on the services utilized through the EAP to describe and define trends.
- Initiate study to profile the relationship of site occupational medical programs and the EAP (internal and external providers).

Program Manager: Ken Matthews

HUMAN RELIABILITY

OHP has the responsibility within the DOE Human Reliability Programs (HRP) to monitor worker health and fitness for duty through annual medical and psychological assessments. These programs are designed to evaluate individuals who apply for or occupy certain positions that are critical to our national security and worker and community safety. HRP individuals assigned to nuclear explosive duties are monitored at the work site to ensure that no emotional, mental or physical conditions exist that could result in an accidental or unauthorized detonation of nuclear explosives. The HRP evaluates that situation very carefully and then continues to monitor the HRP worker's ability to perform the job tasks in a safe and reliable manner. Through the continuous monitoring process, physicians and psychologists are asked to determine: 1) if the worker is physically fit to perform assigned duties; 2) if the worker is mentally stable to perform duties without injuring anyone in the process; and 3) whether the worker is abusing drugs or alcohol.

OHP provides guidelines to assist site health care providers in answering such questions about reliability and mental stability. The HRP provides a thorough investigation of work history data by obtaining a lifestyle history of an HRP employee entrusted by DOE to perform sensitive and critical work in relationship to protecting the national security. Annual training that emphasizes program requirements and specific issues including monitoring and surveillance of worker behavior and job performance is required for those in the HRP. OHP collaborates with the Office of Security and Emergency Operations in the development of Federal rules and DOE standards and assures those standards are met.

ACCOMPLISHMENTS:

- Facilitated review and final cycle of re-write of Draft HRP Rule, which now addresses major issues raised by the Office of Defense Programs.
- Submitted Part B-Medical and Psychological Standards, of the overall DOE HRP revised Rule, “Physical Protection of Security Interests” to the Office of General Counsel for review.

- Completed database for Designated Physicians and Designated Psychologists in Personnel Assurance Program and Protective Force and the HRP Rule.
- Developed research protocol for evaluating the use of a specific enzyme (GGT) to determine alcohol abuse.
- Developed research protocol for utility of a psychological test (SASSI) for alcohol abuse/dependence evaluations.

GOALS:

- Finalize the HRP Rule, participate in public hearings, and codify in the Code of Federal Regulations (CFR).
- Review current psychological tests as to their relevance for the HPR and protective force (CFR's).
- Initiate review of the utility of performance-based testing programs for fitness-for-duty evaluations.
- Provide needed documents for designated physicians/psychologists for successful implementation of the HRP.
- Complete enzyme and screening inventory studies for identifying alcohol abusers.

Program Manager: Ken Matthews

RECORDS

Records are an essential source of information about DOE. Records, however, are useless unless intellectual control and access to them are maintained. The records program supports OHP's mission by locating records, by maintaining intellectual control over those records, and by facilitating access to them. The OHP Records Program ensures the preservation of DOE records useful for health research and facilitates the access for health researchers.

Epidemiological Records Reviews – This project refines the broad DOE moratorium on the destruction of health-related records. The project removes from the moratorium, records that are not useful for health research, thereby, reducing records storage costs and ensuring that useful records are preserved.

Support for Office of Worker Advocacy – This project provides support for the records-related work that is a part of DOE's implementation of the Energy Employees Occupational Illness Compensation Program Act of 2000.

Oak Ridge Records – This project facilitates the transfer of historically valuable records to the National Archives. Many of these records are on environment, health, or safety topics.

Site Closure – This project ensures that records of closed out sites, which are useful for health studies, are preserved and that intellectual control over them is maintained.

ACCOMPLISHMENTS:

Epidemiological Records Reviews

- Conducted three site visits to continue review of Hanford site epidemiological records.
- Completed a follow up epidemiological records review for INEEL records to assist in the opening of a new storage facility.
- Completed an assessment of whether the R&D Records Schedule will cover records useful for health research.
- Reduced bills for storage of epidemiological records in Federal Records Centers.

Support for Office of Worker Advocacy

- Evolved Beryllium Records Program into records work for Office of Worker Advocacy.
- Created the Covered Facilities List which is on the office web site and updated the list published in the Federal Register.
- Wrote procedures for processing all Federal claims under Public Law 106-398.

Oak Ridge Records

- Continued to process and transfer to National Archives declassified boxes of records.

Site Closure

- Completed epidemiological records reviews for site close outs at Mound, Fernald, and Rocky Flats plants.
- Worked with the Office of Environmental Management (EM) to solve problems of ownership, storage, and intellectual control over records of closed out facilities.

GOALS:

Epidemiological Records Reviews

- Complete regular epidemiological records reviews of Hanford site records (3 site visits).
- Continue to streamline and reduce bills for storage of epidemiological records in Federal Records Centers.
- Review epidemiological records held in two Federal Records Centers.
- Continue new schedule records reviews (Work for Others Schedule).
- Review Headquarters epidemiological records stored in the Washington National Records Center.

Support for Office of Worker Advocacy

- Continue records research needed to support the updating and maintenance of the Covered Facilities List.

- Provide records advice and assistance to sites and to NIOSH for dose reconstructions under Public Law 106-398.
- Continue oversight over funding (initially $2.5 million) provided to sites for records work required under Public Law 106-398.
- Maintain oversight of employment verification for claimants who worked for atomic weapons employers and/or beryllium vendors.
- As needed, make revisions to procedures guidance to DOE sites for processing Federal claims under Public Law 106-398.

Oak Ridge Records

- Complete Oak Ridge Records Project.

Site Closure

- Work with EM to solve problems of records ownership, storage and intellectual control for closed out sites.

Program Manager: Roger M. Anders

INFORMATION MANAGEMENT

The OHP web site allows the office to share information related to its programs. In this regard, OHP is able to collect health-related information and provide it in a straightforward manner to the DOE workforce and surrounding communities, thereby continuing DOE's policy of openness.

The OHP Information Management Team, working with the Office of Environment, Safety and Health's Office of Information Management (IM), ensures the highest quality, state-of-the-art information management systems, tools, and programs allowing our office to effectively communicate, share information, and respond to customers.

The Information Management Team's mission is to manage the informational needs of OHP. This involves defining, addressing, and coordinating these needs with IM and others as needed. Periodically, the team reviews and updates these needs and works together to ensure that the technology used supports work at both the programmatic and individual levels. In this respect, informational needs are defined as data, technology (hardware, software, web sites, databases), and individual workstations. The team also serves as a clearinghouse of information to OHP by bringing new initiatives and technological changes to the organization.

ACCOMPLISHMENTS**:**

- Created a new web site to reflect the reorganization of our office that took place in July 2000.

- Completed the following databases:
  - Marshall Islands Dose Data database;
  - OHP Portfolio Management database;
  - Russian Bibliography database; and
  - Human Reliability Program Designated Physicians & Psychologists database.
- Inventoried OHP's sources of information technology.
- Signed joint OHP/IM Information Management Agreement for 2001.
- Developed procedures for information management assistance.
- Developed OHP information management needs assessment proposal.

GOALS:
- Continue to populate the OHP web site and maintain its accuracy.
- Make a decision on the Medical Surveillance Information System (MSIS) database.
- Make the Portfolio Management Database web accessible.
- Maintain current databases.

Program Manager: Mary L. Fields

HEALTH EFFECTS POST-DOCTORAL FELLOWSHIP PROGRAM

In 1996, OHP initiated the DOE Health Effects Postdoctoral Fellowship Program in response to the concern expressed by Government agencies and the academic community that there is insufficient technical expertise in the radiation sciences due to the retirement of scientists with knowledge and interest in this area. A 5-year cooperative agreement was awarded to the University of Pittsburgh in 1997 to stimulate the development of a center of excellence in the radiation sciences. The program, located in the Department of Environmental and Occupational Health of the University of Pittsburgh Graduate School of Public Health. The program provides fellows with a 2-year sequence including any needed course work, in-house laboratory rotations, and a year of field experience at domestic or international sites of interest to DOE. Areas of concentration include radiation epidemiology and biostatistics, health physics and radiobiology, biological dosimetry and biomarker development and application, and occupational medicine.

ACCOMPLISHMENTS:
- The 5-year program ended in FY 2001, and the final fellow in the program has begun his second year.
- Twelve fellows have successfully completed the 2-year program and the majority are now employed in areas that contribute to the mission of DOE and the radiation sciences in general. These include positions in radiation

and other health effects policy, Government and university research, radiation dosimetry, and university teaching.
- Lessons learned from this program can serve as the basis for future training programs funded by DOE.

Program Manager: Joseph F. Weiss

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